

SUMMARY
AD HOC ADVISORY COMMITTEE
CHESAPEAKE BAY AND TIDAL TRIBUTARIES WQS
JANUARY 28, 2004

- **Welcome and Introductions**

DEQ: Alan Pollock, Elleanore Daub, Jean Gregory, Arthur Butt, Rick Hoffman, George Walker

VMA: Bernard Kiernan

CBF: Elizabeth Andrews

HRSD/VAMWA: Will Hunley

Hanover Co./VACO: Frank Harksen

VIMS: Lyle Varnell

DCR: Charlie Lunsford

VA State Dairymen Assoc.: Dale Gardner

EPA: Mark Smith and Dave Jasinski participated by conference phone in the afternoon between 1:00 and 4:00 PM.

Overview/Summary

Key Issues Discussed:

1. Review of DEQ second NOIRA, which will result in amendment the Nutrient Enriched Waters Policy and limits on TN and TP in VPDES permits.
2. Review of the three processes involved in the Bay restoration that will eventually dovetail and result in implementation of these water quality standards (Chesapeake 2000, Tributary Strategies, amended Nutrient Enriched Waters Policy and eventual TMDL if WQS not met by 2010)
3. Public meeting presentation (EPA's new subcategories or "refinement" of existing uses (migratory spawning and nursery, shallow water, open water, deep water, deep channel), criteria (dissolved oxygen, water clarity, chlorophyll *a*), use attainability analysis, implementation)

Follow Up:

Provide at next meeting hard copies of EPA Bay Technical Support Document for those committee members who need or would like hard copies.

Mail detailed agenda such as the one for today out to committee at least two weeks in advance with supporting materials so that they will have time to consult with members of their organization who have experience/expertise in that subject area

Provide update at the next meeting of Maryland's proposed regulatory amendments if available.

Comments Received During Notice of Intent

Key Issues Discussed:

1. Hard copies of comments handed out to committee.
2. Most comments polarized (uses and criteria are too stringent or not stringent enough, cost should/should not be considered).
3. Be cautious about broadly applying uses without site-specific review and to be careful of the use of default values such as .5 as the minimum depth for the SAV use.
4. Do not use SAV as a biological criterion in the regulation, rather might be useful as a translator in combination with the water clarity criteria.
5. Most agree that some implementation must go in the regulation but disagreed on the level of detail.
6. Must recognize that non-point source inputs are not regulated but represent the most important source of nutrient inputs and are crucial to Bay restoration.
7. The issue of naturally low dissolved oxygen because of the extensive tidal wetlands in the Pamunkey and Mattaponi is a key issue which must be addressed, possibly in a fashion similar to the wetlands pH due to natural conditions demonstration during the last DEQ triennial review. DEQ is open to suggestions/ideas for the technical basis for development of appropriate criteria for these waters.

Follow Up:

None

Discussion of migratory fish spawning and nursery use, boundaries and criteria.

Key Issues Discussed:

1. Is word "balanced" needed in the definition of migratory fish and spawning use? This term is included in EPA's definition and is repeated in the general VA WQS regulation use (it is not in state code). It is a broad term referring to an array of conditions (e.g. ecologically diverse, healthy) that recognizes the dynamic nature of the aquatic life uses. We should be sure we understand what we mean by "balanced" and that the criteria are designed to protect that "balance."
2. The Piankatank should have migratory fish spawning and nursery uses also. VIMS will provide the Piankatank River anadromous spawning documentation that they provided EPA.

3. DEQ no longer thinks VDGIF confirmed and potential migratory boundaries are appropriate for inclusion in this rulemaking because those boundaries include migration pathways and not just spawning and nursery data (which is the use EPA designed the criteria to protect). DGIF will be given the opportunity to comment on any boundaries proposed.
4. Discussion of whether these uses and criteria should apply to small tidal creeks and embayments. VIMS reported that there is no reason to doubt that these creeks would be used for spawning and/or nursery. However, DEQ and others are concerned that there may be site-specific factors that naturally prevent the use and criteria from being met. Best example is the naturally low dissolved oxygen found in the Mattaponi and Pamunkey. These criteria should not apply there. EPA believes that the uses and criteria published are applicable to the small tidal creeks and embayments and any inconsistencies should be dealt with site by site. DEQ and other ad hoc members would like to avoid adopting regulations that are inaccurate and that have to be fixed later. Ideas included excluding the small tidal creeks and embayments from these new standards or including a general variance to natural conditions (EPA would not approve that process). Also discussed was whether the concern would even arise given that we don't normally collect data in those areas and that use assessment is done on a Bay program segment by segment basis. Some ad hoc members still concerned since special studies or citizen monitoring will be collected in these areas. DEQ could include the Bay program segments (e.g. CB6PH, JM5OH) in the regulation and specify that only the segment is assessed and not the monitoring station. This option may not be protective or sensitive enough to recognize localized problems.
5. Discussion of whether the open water 30-day open water means apply or if they are needed during the spawning season (spawning season includes a 7-day mean of 6.0 and a instantaneous minimum of 5.0) particularly the 30-day mean of 5.5 that applies in tidal fresh habitats. The 30-day mean of 5.0 that applies in higher salinity habitats is unnecessary considering that the instantaneous minimum is also 5.0. The TSD on page 67 states that the migratory fish spawning and nursery is used in conjunction with the year-round open water use which leads one to believe that all criteria must apply. EPA will check into this and provide clarification.

Follow-up:

Because of concerns brought up by CBF that the boundaries and the time periods are not long enough. These concerns were also provided to EPA on the draft criteria - DEQ staff will follow up with EPA to determine if or how those comments were addressed.

DEQ will take the concern of application of these uses and criteria in small tidal creeks and embayments to Bay Program staff at EPA.

EPA will check on whether the 30-day open water means apply in conjunction with the other migratory fish spawning and nursery criteria.

VAMWA had presented comments to DEQ that the 5.0 instantaneous minimum was not appropriate as there were no citations of impacts to early life stages of fish in short term exposures less than 4.0. Will Hunley will ask Jim Pletel to elaborate on this comment (specifically January 15 letter to DEQ comment # 13).

DEQ staff will check with permits staff and representatives on this committee will ask their members to determine if these new criteria in migratory and spawning areas will effect local BOD limits.

Discussion of open water, deep water, deep channel use, boundaries and criteria.

Key Issues Discussed

1. Boundaries of open vs. deep water must be reconsidered. In making this designation, EPA appeared to look at attainment of waters meeting 3 mg/L in designating most of CB6 as open water when they should have looked at attainment of 5 mg/L. In doing this, EPA did not see a chronic extent of low DO in these waters (< 3mg/L). EPA stated that if low DO was found in these waters it was due to anthropogenic inputs. VAMWA had submitted comments to DEQ and EPA regarding the inability to attain open water uses in the summer in CB6. DEQ asked EPA to check their response to comments on the open water boundaries of CB6.
2. Group verified that the depth of the pycnocline will vary with each monitoring cruise and therefore, the depth of the open water/deep water boundary will be variable.
3. Group discussion of criteria included whether DEQ should maintain a 4.0 instantaneous minimum in open waters that are currently meeting this criteria (observed and modeling data indicates this to be true in the winter) in order to be conservative and recognize high water quality. This idea was debated for the following reasons: 3.2 is protective of use (EPA verified this in TSD), 3.2 is a conservative value, EPA would prefer consistency between the states and see the same criteria adopted, we are not sure the observed or modeled data is completely representative of the true existing quality.
4. EPA explained a dissolved oxygen attainment table of key scenarios, which was provided to DEQ by the CBPO. The table listed attainment of open water uses via meeting criteria of monthly averages of 5.0 (or 5.5 depending on salinity) vs. attainment of a monthly average 4.0. This was done with observed data (using the interpolator model and EPA's CFD method of determining attainment to a 5 mg/L reference curve), a water quality model 'confirm' run (which calculated attainment based on the 175 million lbs nitrogen reductions) and water quality model 'confirm + 20' run (which calculated attainment based on the 175 N reduction + 20% shoreline erosion reduction as well as other sediment restrictions). From this table, it appears that some segments are attaining 4.0 mg/L. However, the 4.0 mg/L attainment percentages listed in the tables were

developed using the 5.0 mg/L reference curve. It is probable that if a 4.0 mg/L reference curve were used, the attainment results would be similar to the 5.0 mg/L attainment results (i.e. we would see higher percentages of non-attainment at the 4.0 level).

5. Another comment received was why the Elizabeth River tributaries were excluded from deep channel or deep water uses? EPA will check on this, as these tributaries were included in earlier versions of the TSD.
6. DEQ thinks that comments received from VIMS regarding extending the deep water uses in into Tangier Sound have been addressed but will check with EPA/CBPO.

Follow-up:

EPA to check on their response to comments submitted by VAMWA on the open vs. deep water boundaries of CB6.

EPA will check on whether Elizabeth River tributaries were supposed to be included as deep water or channel and if not, why they were excluded.

DEQ will check the CBPO to see if VIMS recommendation of extending deep water uses into Tangier Sound have been incorporated into the TSD.

Discussion of Mattaponi and Pamunkey naturally low dissolved oxygen due to extensive tidal wetlands.

1. This natural condition in the Mattaponi and Pamunkey became obvious to the DEQ when modeling attainment scenarios showed water quality getting worse in these waters as treatment technology improved. After further analysis, it was determined these areas were inundated with tidal wetland, low dissolved oxygen waters. This issue is exactly the same issue several of the group were concerned about broad application of these uses to areas (including small tidal creeks and embayments) that have not been verified. This particular issue became apparent because monitoring data was available - this is not so in many other areas.
2. Seasonally, these waters may not meet open water or migratory fish spawning and nursery dissolved oxygen criteria. EPA published an issue paper with options on addressing these waters. Options included defining a separate designated use with appropriate (reduced) dissolved oxygen criteria values; develop a separate biological reference curve to account for acceptable lower dissolved oxygen values; determine a fixed or multivariate compensation factor to 'adjust' (upward) the observed dissolved oxygen concentration values; allow the segments to fail the monthly criterion, but meet the instantaneous. EPA recommended the adjustment factor but the states (monthly conference calls are held by the states and the CBPO to discuss the Bay WQS effort) rejected this idea. EPA rejected having a separate designated used because these areas carry the same species that occupy other tidal habitats (i.e. the designated use is the

same). EPA also rejected the idea of a separate reference curve because reference curves are developed in areas with high water quality. If a curve were based on specific natural impairments, then the Mattaponi and Pamunkey would serve as their own reference sites, which doesn't seem rational. DEQ would like to see a site-specific criteria for these waters which reflects the natural condition (designated uses remain the same). EPA will reconsider some of these options and report back to the DEQ.

Follow-up:

EPA will reconsider some of these options and report back to the DEQ.

Other Issues - How to assess various averaging periods associated with criteria.

1. EPA expects the states to adopt the full set of DO criteria. However, direct monitoring at the temporal scales for assessing the instantaneous, 1-day mean and 7-day mean is limited. The TSD recommends that assessments be waived or statistical methods be applied to estimate probable attainment. DEQ does not think we can 'waive' assessment of criteria. Currently, the Bay models can predict monthly water quality attainment from once or twice per month "grab" samples collected at various depths in the water column. DEQ would like EPA to consider that the current methods of monitoring are more representative of a daily average than a monthly mean.
2. EPA expects the states to adopt a full compliment of these criteria. But if we can't assess the shorter averaging periods - why must they be adopted?

Follow-up:

EPA is currently developing additional guidance on assessment of shorter-term criteria to the monthly averages.